



National Park Service

ARTICLE • CLIMATE & HISTORY AT GLACIER NATIONAL PARK

Global Warming: Solutions & Benefits at Glacier National Park

Glacier National Park (<https://www.nps.gov/glac/>)



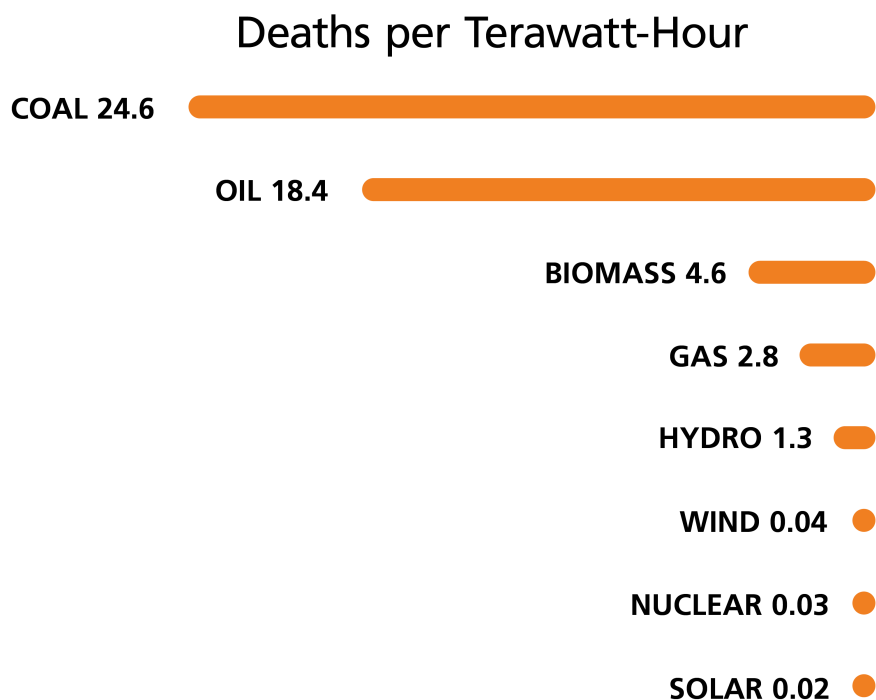
This image was taken by George Grant in 1932 just before Going-to-the-Sun Road was completed. The Ford Model-A parked along the road probably had a fuel efficiency between 10 and 20 miles per gallon.

Burning fossil fuels is often the only choice for traveling to Logan Pass.

That is the way it has been since Going-to-the-Sun Road first opened in 1933. For over a century, fossil fuels have taken us wherever we wanted to go.

Though unintended, burning these fuels releases greenhouse gases that warm the climate. Limiting this warming requires shifting away from fossil fuels. Besides mitigating climate change there are many other benefits to this transition. Electric vehicles and appliances powered by renewable energy are more efficient, quieter, and safer. Fossil fuels may have been your only choice today, but alternatives—and their side benefits—are quickly becoming widespread.

One side benefit to this energy transition is the extension of human life. The same energy sources that emit the least greenhouse gases are also the least harmful to people.



This graph was adapted from Our World in Data, Richie, (2020) and Markandya & Wilkinson (2007); Sovacool et al. (2016); UNSCEAR (2008; & 2018). Death rates are calculated using fatalities from accidents and air pollution per terawatt-hour of electricity.

Death rates are calculated using fatalities from accidents and air pollution per terawatt-hour of electricity generated. That means, on average, 24.6 people die from air pollution and accidents derived from coal combustion. 18.4 people from burning oil. Electricity produced by hydropower, wind, nuclear, and solar result in far fewer deaths.

For these reasons and more, Glacier National Park has already begun an effort to reduce its greenhouse gas emissions from fossil fuels. From Polebridge and Goat Haunt to the Apgar Visitor Center and park headquarters Glacier is transitioning to renewable sources of energy throughout the park.

This includes managing the Logan Pass visitor center as a model for off-grid sustainability. This area obtains all its electricity from solar panels, mostly tucked out of view.

Glacier National Park's goal is to be a leader in understanding, communicating, and responding to climate change.

Improvements to Glacier's recycling program are being made. More efficient LEDs are replacing energy-wasting light bulbs. Glacier's employees can reduce their own carbon emissions by riding the employee shuttle or biking to work. A few more specifics are listed below.

- The **Logan Pass Visitor Center** obtains electricity from solar panels.
- The **Apgar Visitor Center** also uses rooftop solar panels.
- The **Polebridge Ranger Station** has three large photovoltaic arrays.
- **Goat Haunt** uses a micro-hydroelectric power plant.
- The park has a **campaign to reduce unnecessary idling**.
- The local availability of recycling services is extremely limited.
- **Glacier recycles everything that the local market accepts.**

The Uphill Struggle

Just because the benefits are significant does not mean this transition away from fossil fuels will be easy. For some sectors and industries, fossil fuel free solutions are only just emerging. What parts of your life would be easiest, and most difficult, to transition away from fossil fuels?



This image was taken by an unknown photographer in 1938, showing that the literal uphill battle of plowing snow off Going-to-the-Sun Road has been a much-watched harbinger of spring here for nearly a century.

Every spring, snow is plowed from Going-to-the-Sun Road by heavy equipment powered by fossil fuels. Finding ways to plow and maintain this iconic road without fossil fuels will require creativity and ingenuity. Perhaps the future will require less plowing overall.

Rising temperatures from a warming climate have meant less snowpack. Over the past 80 years, western Montana and the Pacific Northwest have seen drastic declines in snowpack volume.

The snowpack this winter (2023-2024) reflects that broader trend. In Many Glacier, the snow-water-equivalent was measured at 26% of average on February 13th. On the west side of the park, measurements are around 75% of average.

One dry winter is not necessarily because of climate change, however, the trend is expected to continue unless climate change is swiftly addressed.

The information in this article is featured in exhibits outside the Logan Pass Visitor Center. Check the exhibits out for yourself next time you visit!

Sources

Part of a series of articles titled [Climate & History at Glacier National Park \(https://www.nps.gov/articles/series.htm?id=38A5C3BE-F6A6-4461-6AA526BAA404C483\)](https://www.nps.gov/articles/series.htm?id=38A5C3BE-F6A6-4461-6AA526BAA404C483).

Previous: [Causes & Consequences of Climate Change at Glacier National Park \(https://www.nps.gov/articles/000/causes-consequences-of-climate-change-at-glacier-national-park.htm\)](https://www.nps.gov/articles/000/causes-consequences-of-climate-change-at-glacier-national-park.htm)

Next: [Climate Change & Geologic History at Glacier National Park \(https://www.nps.gov/articles/000/climate-change-geologic-history-at-glacier-national-park.htm\)](https://www.nps.gov/articles/000/climate-change-geologic-history-at-glacier-national-park.htm)



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